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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,425	11/04/2005	Vito Alanzo	LSP-1011US	3149
24923	7590	10/26/2007		
PAUL S MADAN MADAN, MOSSMAN & SRIRAM, PC 2603 AUGUSTA DRIVE, SUITE 700 HOUSTON, TX 77057-5662			EXAMINER GILLESPIE, BENJAMIN	
			ART UNIT 1796	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/537,425

Applicant(s)

ALANZO ET AL.

Examiner

Benjamin J. Gillespie

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language “vigorous” renders claims 14 indefinite because it is a subjective term.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Shiraiwa et al ('921). Shiraiwa et al teach non-ionic water dispersible blocked polyisocyanate compounds and a method for their production comprising the reaction product of A) polyisocyanate, B) thermally de-blockable isocyanate blocking agents, and C) non-ionic alkoxyated diol corresponding to applicants' claims (Abstract; col 3 lines 11-12). In particular, patentees explain that A) is a mixture of hexamethylene diisocyanate (HDI) based isocyanurate and the reaction product of trimethylol propane and toluene diisocyanate, and B) consists of methyl ethyl ketoxime, chemically synonymous with butanone oxime (Col 3 lines 8-14).
3. Regarding the specific polymer backbone structure of compound (iii) limitation of formulate (III) in claims 1 and 3, patentees explain that the hydrophilic compound is the reaction

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product of polyalkylene glycol glycidyl ether and multifunctional active hydrogen compounds such as glycerol, and/or trimethylol propane, which would result in compounds containing pendant (II) and (III) respectively (Col 2 lines 3-27).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-8 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonderko et al (2002/0061999) in view of Shiraiwa et al ('921). Jonderko et al teach coatings based on non-ionic water dispersible blocked polyisocyanate compounds and a method for their production comprising the reaction product of A) polyisocyanate, B) thermally de-blockable isocyanate blocking agents, and C) non-ionic hydrophilic alkoxyated diol (Abstract; paragraphs 2, and 9-11). In particular, patentees explain that A) is a mixture of hexamethylene diisocyanate (HDI) based isocyanurate and the reaction product of trimethylol propane and toluene diisocyanate, and B) consists of dimethyl pyrazole, and methyl ethyl ketoxime, which is chemically synonymous with butanone oxime and (Paragraph 21; claim 14).

5. In particular, patentees explain that that polyisocyanate is reacted with the hydrophilic diol at 60°C in an amount that results in an urethane compound having a free NCO content between 7 and 8%, followed by the reaction with B) in the presence of methyl ethyl ketone solvent (Paragraphs 31 and 55). The blocking agent B) is present relative to the free NCO groups in a slight stoichiometric excess, which is taken to satisfy the claims 6 and 13 (Paragraph

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40). Jonderko et al fail, however, to teach hydrophilic diol that corresponds to the compounds listed in claims 1, 3, 6 and 7.

6. Aforementioned, Shiraiwa et al also teach hydrophilic blocked polyisocyanates that are the reaction product of A) polyisocyanate, B) thermally de-blockable isocyanate blocking agents, and C) non-ionic hydrophilic alkoxyated diol, wherein A) consist of hexamethylene diisocyanate (HDI) based isocyanurate and the reaction product of trimethylol propane and toluene diisocyanate, and B) consists of methyl ethyl ketoxime. Patentees go on to disclose that the preferred C) compounds consist of groups that are the reaction products of polyalkylene glycol glycidyl ethers and trimethylol propane and/or glycerol, which satisfy the compounds of claims 1, 3, and 6. Furthermore, patentees explain that the resulting coatings based on said hydrophilic blocked polyisocyanates exhibit improved low-temperature flexibility and adhesion thereby increasing the types of substrates said coating can be applied to (Col 1 lines 11-25).

7. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the hydrophilic polyether diols of Shiraiwa et al in Jonderko et al based on the motivation that both are drawn to analogous applications, and the diols of Shiraiwa et al increase the performance and versatility of the resulting coating composition. Furthermore, both Shiraiwa et al and Jonderko et al teach that the preferred ratio of NCO to diol is at least 1:1, based on this stoichiometry, and the structural formula of the non-ionic alkoxyated diol, the claimed ethoxy group content of claim 11 would be satisfied (Jonderko et al, paragraph 39; Shiraiwa et al, col 3 lines 19-25). Finally, it is important to note that although Jonderko et al disclose the use of ionic-based water dispersants, these compounds are optional. As a result, it would have been obvious to omit said ionic groups based on the motivation that it has been held

the omission of an element with consequent loss of function is obvious. *In re Kuehl* 177 USPQ 250; *In re Wilson* 153 USPQ 740.

8. Claims 9-10 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jonderko et al (2002/0061999) in view of Shiraiwa et al ('921) and in further view of Reiff et al ('737). Aforementioned, Jonderko et al in view of Shiraiwa et al render obvious a non-ionic blocked polyisocyanate composition that is the reaction product of A) polyisocyanate, B) thermally de-blockable isocyanate blocking agents, and C) non-ionic hydrophilic alkoxyated diol in the presence of solvent. However, both Jonderko et al and Shiraiwa et al are silent in specifying the amount of solvent, applications that correspond to claims 15-17, or a content of TDI isomers corresponding to claims 18 and 19.

9. Reiff et al teach water-dispersible blocked polyisocyanates comprising the reaction product of polyisocyanates and non-ionic hydrophilic surfactants consisting of polyethylene oxide, which is then blocked with butanone oxime, and useful in coatings (Abstract; col 1 lines 11-25; col 7 lines 57-59; col 8 lines 42-52; col 10 lines 50, 58-59, 65). Specifically, Reiff et al disclose polyisocyanates based on the reaction product of TDI and trimethylol propane, wherein the TDI consists of 2,4 and 2,6 isomers present in a ratio of 80:20 by weight (Col 18 lines 65-67). Therefore it would have been obvious to utilize the TDI isomer mixture disclosed by Reiff et al in the composition of Jonderko et al based on the motivation that Reiff et al teach them useful in applications analogous to Jonderko et al, and it is prima facie obvious to add a known ingredient for its known function. *In re Linder* 173 USPQ 356; *In re Dial et al* 140 USPQ 244.

10. Furthermore, Reiff et al teach that the blocking agent is present relative to free NCO groups in a ratio ranging from 1:1 to 1.1:1, and the blocking reaction takes place in methyl ethyl

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ketone solvent in an amount corresponding to applicants' claimed range (Col 11 lines 20-28, 65-67; and 1-3). Based on this disclosure, it would have been obvious to arrive at applicants' claimed solvent content of claim 9 based on the motivation that it is the preferred amount when blocking polyisocyanates, such as TDI, with butanone oxime blocking agents.

11. Finally, patentees explain that the water-dispersible blocked polyisocyanates preferably have a solids content between 25 and 50-wt%, the hydrophilic polyisocyanates are useful in oil and/or water repellent textile coatings, and these coatings may further comprise perfluorinated polymeric compounds present in amounts relative to the blocked polyisocyanate by a 1:1 to 1:12, which satisfies claim 15 (Col 1 lines 11-15; col 11 lines 3-8 and 45-50; col 13 lines 19-25, 48-51; col 16 lines 62-64). The blocked polyisocyanates may also be combined at a concentration of 0.5-5-wt% with a impregnating liquor, which is applied to textiles, taken to satisfy claims 16 and 17.

12. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the blocked polyisocyanates of Jonderko et al in oil and water repellant textile coatings based on the motivation that Jonderko et al and Reiff et al have analogous compositions and in obviousness rejections based on close similarity in chemical structure, the necessary motivation to make a claimed compound, and thus prima facie face of obviousness, rises from the expectation that compounds similar in structure will have similar properties. *In re Gyruik*, 596 F. 2d 1012, 201 USPQ 552 (CCPA 1979). Finally, it would have been obvious to arrive at the solids content disclosed in Reiff et al based on the motivation that it is the preferred range for applications in oil and water repellent textile coatings; in order to successfully employ the water-

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dispersible blocked polyisocyanates in such applications, one would be motivated to use the solids content disclosed by Reiff et al.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin J. Gillespie whose telephone number is 571-272-2472. The examiner can normally be reached on 8am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

B. Gillespie


RABON SERGENT
PRIMARY EXAMINER